ORDER NO. GAD8609447A2

Service Manual

Microcassette

RN-190

(Black)

Microcassette™ Recorder

- Please use this manual together with the service manual for model No. RN-190 (Original) order No. GAD8606582C1.
- This service manual indicates the main differences between; Original RN-190 [M] and RN-190 for [Z][E] mark areas.

This is the Service Manual for the following areas.

[Z] ···For all European areas except United Kingdom.

[E] ···For United Kingdom.

CHANGE

■ SPECIFICATION

RN-190 [M] (Original)		RN-190 [Z][E]
Power Requirement: AC; 120V, 60Hz with included AC adaptor RP29XP.	➡	**Power Requirement:** **AC; [Z] ... 220V, 50Hz with optional AC adaptor RD-9443HS.** **[E] ... 240V, 50Hz with optional AC adaptor RD-9443HE.**

■ PARTS COMPARISON TABLE:

Please revise the original parts list in the Service Manual RN-109 [M] to conform to the changes shown herein.
If new part numbers are shown, be sure to use them when ordering parts.

NOTE:

1. The letter in the circle after the part name indicates the color of the part.
   Ⓚ ... Black
2. Important safety notice
   Components identified by ⚠ mark have special characteristics important for safety.
   When replacing any of these components, use only manufacturer's specified parts.

Ref. No.	Part Name & Description	Part Number		Remarks
		RN-109 [M] (Original)	**RN-109 [Z][E]**	
K12	Rear Cabinet Ass'y Ⓚ	RKF873ZA	**RYFNZ190M**	
A1	AC Adaptor ⚠	RP29XP	————	**Deleted**
A2	Operating Instructions	RQX4867ZA	**RQX4918ZA**	
P1	Gift Box	RPK2357ZA	**RPK2417ZA**	
P2	Pad (A)	RPN5095ZA	————	**Deleted**
P3	Pad (B)	RPN5096ZA	————	**Deleted**
P5	Cushion	————	**RPN5168YA**	**Added**
P6	Pad	————	**RPH555ZA**	**Added**

Panasonic

Matsushita Electric Trading Co., Ltd.
P.O. Box 288, Central Osaka Japan

GAD
H.M [Z][E]
Printed in Japan Ⓝ

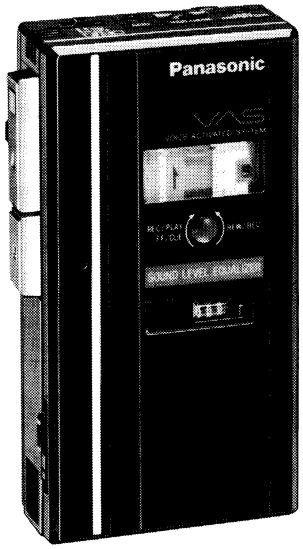
ORDER NO. GAD8606582C1
A1

Service Manual

Micro Cassette™
Micro cassette Recorder

RN-190

(Black)



This is the Service Manual for the following area.

M ··· For U.S.A.

RN-107 MECHANISM SERIES

■ SPECIFICATIONS

Power requirement:	AC; 120V, 60Hz (with included Panasonic AC adaptor RP-29XP Battery; 3V (two "AA" size dry batteries) Car battery; with optional Panasonic car adaptor RP-993 and Panasonic DC plug adaptor RP-007
Motor:	Electric governor motor
Power consumption:	4W (with AC adaptor)
Power output:	300mW RMS (Max.)
Tape speed:	LP; $^{15}/_{32}$ ips (1.2cm/s) SP; $^{15}/_{16}$ ips (2.4cm/s)
Program time:	2 hours with RT-60MC microcassette tape (at LP) 1 hour with RT-60MC microcassette tape (at SP)
Fast forward and rewind time:	Approx. 120 seconds with RT-60MC microcassette tape
Track system:	2-track monaural recording and playback
Input:	DC in; 3V (Mini type)
Output:	Monitor; 8Ω (φ3.5)
Speaker:	$1^{1}/_{2}$" (38mm) PM dynamic speaker; 3Ω
Dimensions:	$2^{3}/_{8}$" (W)×$4^{1}/_{2}$"(H)×$1^{1}/_{16}$" (D) (61×113.5×26.9) mm
Weight:	6 oz (165g), without batteries

Weights and dimensions shown are approximate.
Design and specifications are subject to change without notice.

Panasonic®

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Panasonic Sales Company, Division of Matsushita Electric of Puerto Rico, Inc.
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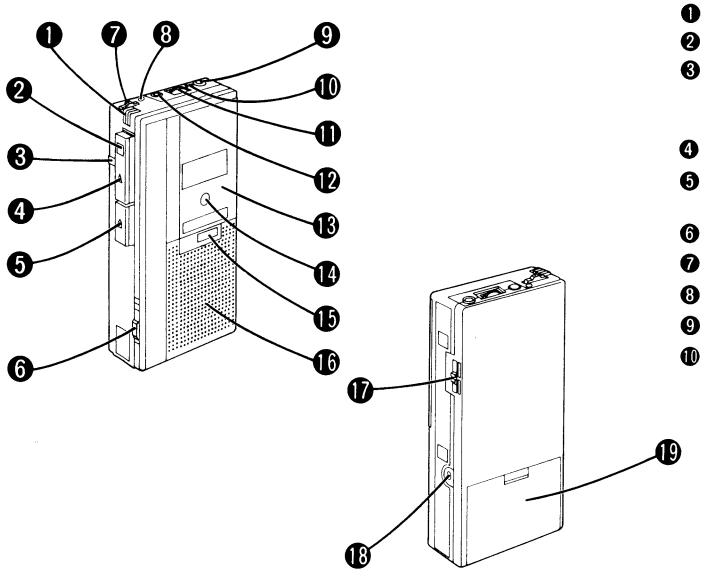
Victoria Industrial Park
Carolina, Puerto Rico 00630

LOCATION OF CONTROLS AND COMPONENTS



❶ Built-in Microphone (MIC)
❷ Record Button (●REC)
❸ Fast Forward/Cue·Rewind/ Review Switch (▲·▼FF/CUE·REW/REV)
❹ Playback Button (▲PLAY)
❺ Stop/Eject Button (■STOP/▲EJECT)
❻ Pause/VAS Switch (PAUSE/ VAS)
❼ S.L.E. Switch (S.L.E.)
❽ S.L.E. Indicator
❾ Monitor Jack (MONITOR (8 Ω)) φ3.5
❿ Recording/Battery Check Indicator (REC/BATT)
⓫ Volume/VAS Level Control (VOL/VAS LEVEL)
⓬ Microphone Jack (MIC)
⓭ Cassette Compartment
⓮ Running Indicator
• This shows the running tape direction.
⓯ Tape Counter and Reset Button (COUNTER)
⓰ Speaker (3.8cm, 3Ω)
⓱ Tape Speed Selector (TAPE SPEED)
⓲ DC Input Jack (DC IN 3 V ⊖⊸⊶⊕)
⓳ Battery Compartment

BATTERY SERVICE LIFE

UM-3 (AA-size) Batteries
Approx. 6.5 hours of Playback (EIAJ)

The above battery service life is measured according to the conditions set forth by EIAJ (Electronic Industries Association of Japan). As the battery service life varies with the method of operation and environmental conditions, use these values as reference.

DISASSEMBLY INSTRUCTIONS

■ Remove the Rear Cabinet

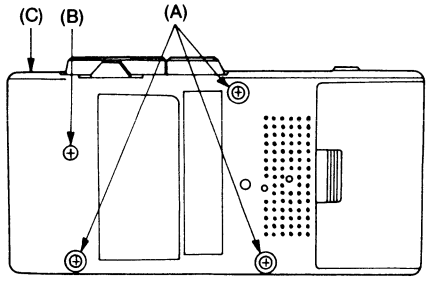


Fig. 1

1. Remove the screw (A) (2×18)mm×3.
2. Remove the screw (B) (1.6×6)mm×1.
3. Remove the screw (C) (1.6×2.5)mm×1.

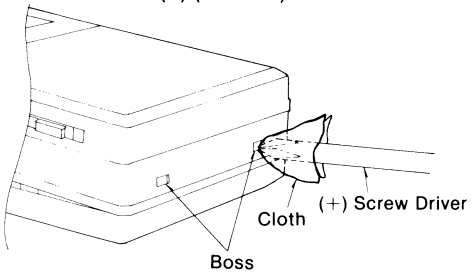


Fig. 2

4. Push the Boss by used (+) Screw Driver. (Fig. 2)

■ Remove the Mechanism & Circuit Board

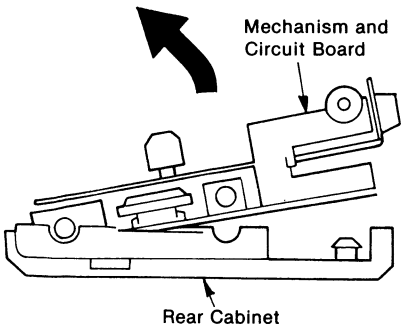


Fig. 3

• Remove mechanism and Circuit Board direction of arrow.

■ Remove the Circuit Board

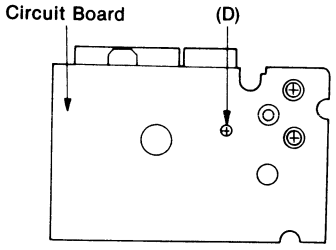


Fig. 4

1. Remove the screw (D) (2.6×4)mm×1.

■ How to Remove the Cassette Lid

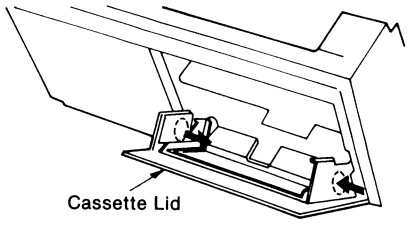


Fig. 5

• Push the portion of the cassette compartment indicated by the dotted circle ◌ in the direction of the arrow to remove the cassette lid.

■ How to Replace the Cassette Lid Spring

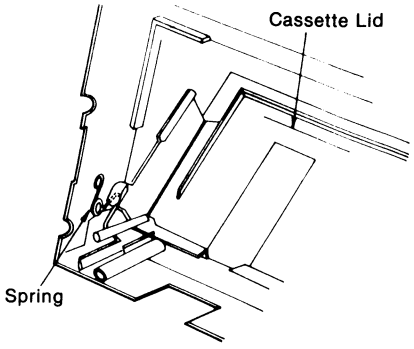


Fig. 6

• Refer to Fig. 6 when attaching the spring.

D

REPLACING THE MAIN PARTS OF THE MECHANISM UNIT

• To remove the mechanism unit, see the section "DISASSEMBLY INSTRUCTION".

A. How to replace the motor assembly

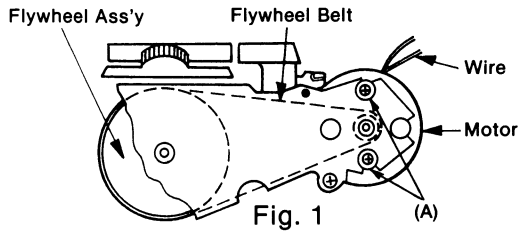


Fig. 1

1. Remove two screws (A) to remove the motor assembly. (See Fig. 1.)
2. Mount the motor assembly so that its lead wires direct as shown in Fig. 1.

B. How to replace record/playback head

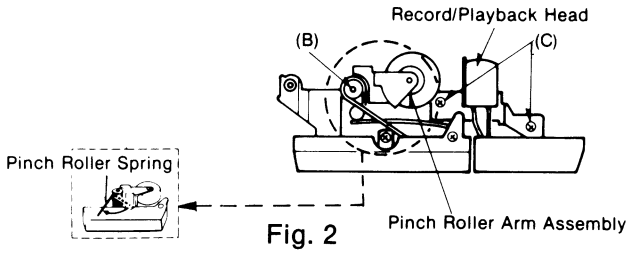


Fig. 2

1. Remove the pinch roller spring as shown in Fig. 2.
2. Remove the poly washer (B) to remove the pinch roller arm assembly. (See Fig. 2.)
3. Remove two screws (C) to remove the record/playback head. (See Fig. 2.)
4. When the record/playback head is installed, reverse the disassembly procedure above.
5. Readjust the head, referring to measurement and adjustment in this service manual.

Assembly notes:

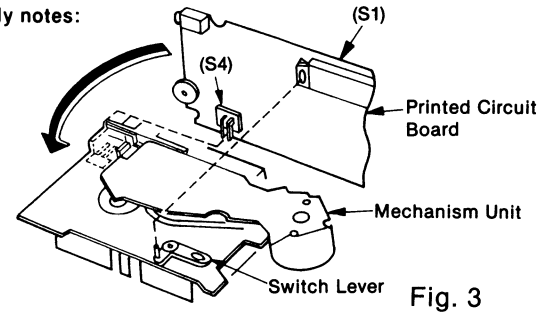


Fig. 3

• When installing the printed circuit board on the mechanism unit, note the following:
Check that the record/playback (S1) and fast forward/rewind (S4) switches are placed in their specified positions as shown in Fig. 3.

MEASUREMENT AND ADJUSTMENT METHODS

NOTES: Keep good condition, set switch buttons and controls in the following positions, unless otherwise specified.
- Make sure heads are clean.
- Make sure capstan and pinch roller are clean.
- Judgeable room temperature: 20±5°C (68±9°F)
- VAS switch: OFF
- Volume control: Maximum
- Tape speed select switch: 2.4cm/s, 1.2cm/s
- FF/REW switch: OFF

ITEM	MEASUREMENT & ADJUSTMENT
Ⓐ **Head Azimuth Adjustment** Condition: * Playback mode Equipment: * Test tape ...QZZMWA	1. Assemble the mechanism and cabinet parts completely. 2. Play back the head azimuth adjusting tape (2.4cm/s, 3kHz...QZZMWA). 3. Adjust the azimuth adjusting screw (Refer to Fig. 2) of Record/Playback head to obtain the maximum monitor output. 4. After adjusting, repeat PLAY and STOP some times and confirm that the output variation is less than the specified level (within 3dB).
Ⓑ **Tape speed adjustment** Condition: * Playback mode Equipment: * DC power supply * Digital electronic counter * Test tape ...QZZMWA for 2.4cm/s ...QZZMWBL for 1.2cm/s	1. Test equipment connection is shown in fig. 1. 2. Apply 3V to DC IN. 3. Connect the monitor output (8Ω) to the counter. 4. Playback the tape speed adjusting tape (for 2.4cm/s 3kHz, QZZMWA, for 1.2cm/s QZZMWBL). 5. Measure this frequency. **Standard value: 2940±20Hz (2.4cm/s), 2940±20Hz (1.2cm/s).** 6. If measured value is not within standard, adjust as follows. **A) 2.4cm/s adjustment** 1. Set the tape speed selector switch (S2) to 2.4cm/s. 2. Adjust tape speed adjustment VR3 so that frequency is 2940±20Hz. 3. Refer to Fig. 3. **B) 1.2cm/s adjustment** 1. Set the tape speed selector switch (S2) to 1.2cm/s. 2. Adjust tape speed adjustment VR2 so that frequency is 2940±20Hz. 3. Refer to Fig. 3.

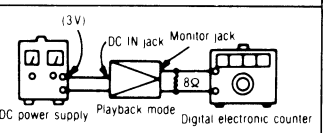


Fig. 1

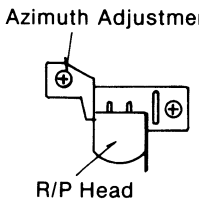


Fig. 2

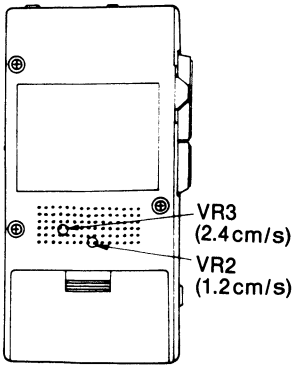
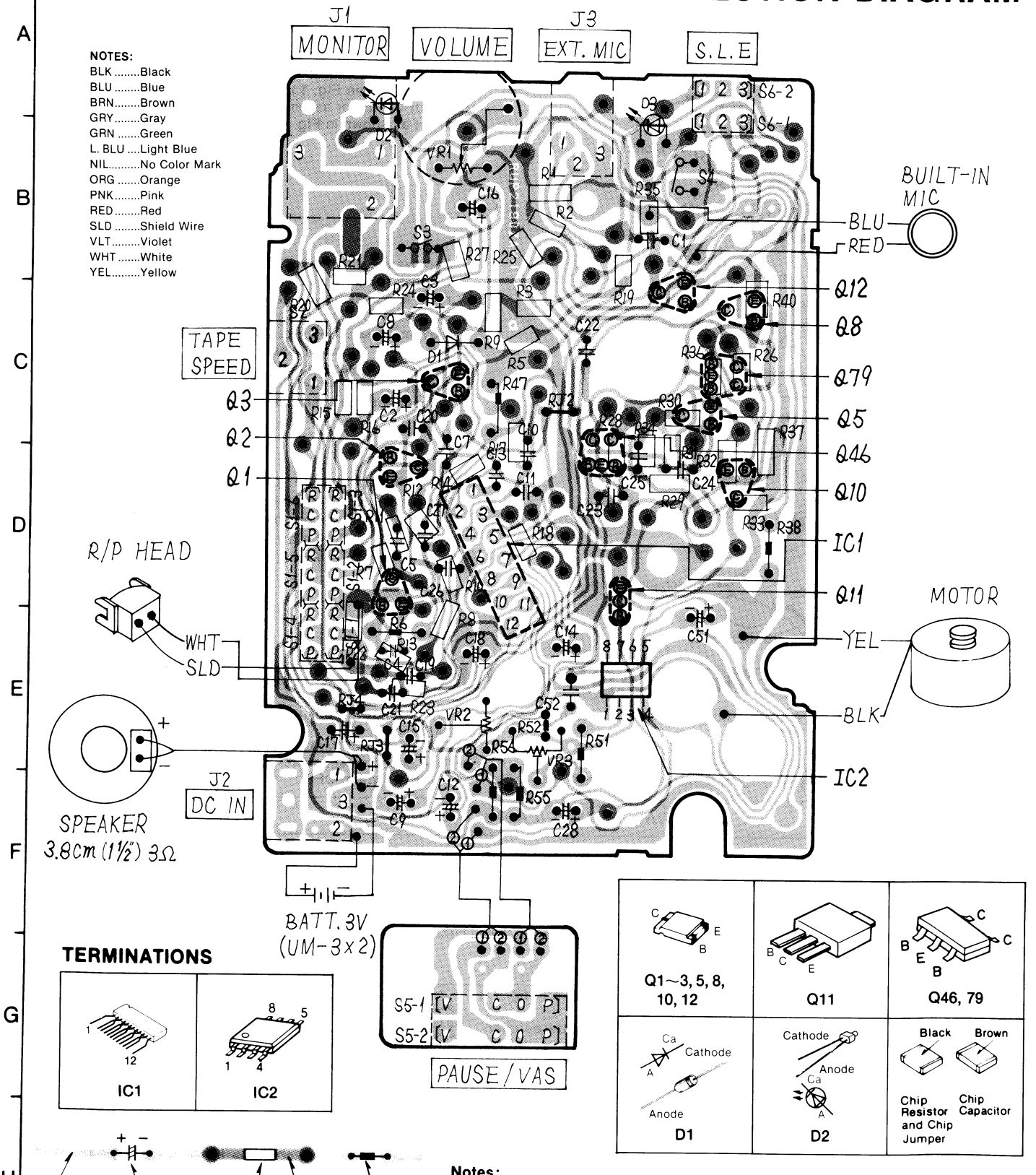


Fig. 3

CIRCUIT BOARDS AND WIRING CONNECTION DIAGRAM

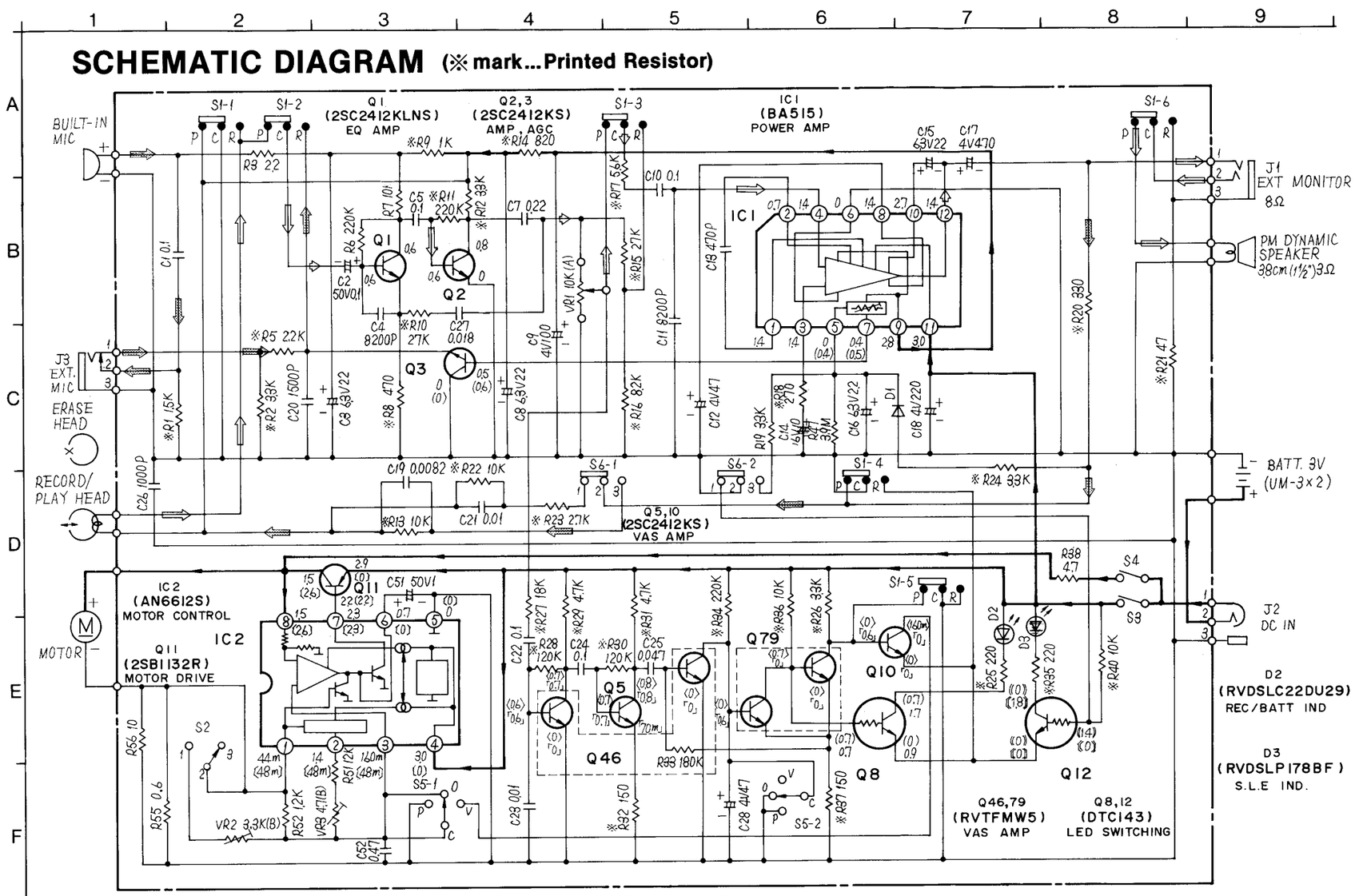


Notes:

1. The symbols ( ) shown in the circuit board indicate printed resistor.
2. The circuit shown in ( ) on the conductor indicates printed circuit on the back side of the printed circuit board.
3. The symbols (●) shown in the circuit board indicate connection points between conductors on the front side and back side of the circuit board.
4. ●—● : Chip Jumper

• This circuit board diagram may be modified at any time with the development of new technology.

SCHEMATIC DIAGRAM (※ mark...Printed Resistor)



NOTES:

1. S1-1~S1-6 .....Record/Playback switch in "PLAYBACK" position. (P... PLAYBACK, R... RECORD)
2. S2.....Tape speed selector in "2.4cm/s" position. ((1)... 2.4cm/s, (3)... 1.2cm/s)
3. S3.....Playback switch "OFF" position.
4. S4.....Fast forward/Rewind switch in "OFF" position.
5. S5-1, S5-2 .....PAUSE/VAS Switch in "OFF" position. (P... PAUSE LOCK, O... OFF, V... VAS ON)
6. **S6-1, S6-2: ..... S.L.E Switch in "OFF" position. (1... OFF, 3... ON)**
7. VR1.....Volume control.
8. VR2.....Tape speed adjustment VR (for 1.2cm/s).
9. VR3.....Tape speed adjustment VR (for 2.4cm/s).
10. DC voltage measurement are taken with electronic voltmeter from negative terminal of battery.
    No mark... Playback position, ( ) ... Recording position,
    < > ... Recording Position (VAS ON)
    ⌜ ⌟.....Recording Position (VAS OFF)
    ( ).....FF/REW
    (( )).....S.L.E ON
    [[ ]].....S.L.E. OFF
11. Signal flows
    ⇨: Playback signal line.
    ⇨: Recording signal line.
    ⟶: ⊕B Line
12. Battery current: Recording mode 100mA (2.4cm/s) 97mA (1.2cm/s)

Playback mode

	2.4cm/s	1.2cm/s
VR: MIN	80mA	80mA
VR: MAX	130mA	130mA

- Resistance are in ohms (Ω), 1/8 watt unless specified otherwise. K=1,000Ω.
- Capacity are in microfarads (μF) unless specified otherwise. P=Pico-farads.
- Described in the schematic diagram are two types of numbers; the supply parts number and production parts number for transistors and diodes. One type of number is used for supply parts number and production parts number when they are identical.
- Described in the schematic diagram are two types of numbers; the supply parts number and production parts number for transistors and diodes. One type of number is used for supply parts number and production parts number when they are identical.

e.g. Q1
2SC2021LNF(R,S) — Production parts number
or 2SD636H(R,S)
[2SC2021LNF] — Supply parts number

D2
1SR35200 — Production parts number
[SM112] — Supply parts number

- **The supply part number is described alone in the replacement parts.**
- **This schematic diagram may be modified at any time with the developement of new technology.**

REPLACEMENT PARTS LIST

Ref. No.	Part No.	Part Name & Description
INTEGRATED CIRCUITS		
IC 1	BA515	IC (PRE, POWER AMP, S.L.E CONTROL)
IC 2	AN6612S	IC (MOTOR CONTROL)
TRANSISTORS		
Q 1	2SC2412KLNS	Transistor (EQ AMP)
Q 2, 10	2SC2412KS	Transistor (AMP)
Q 3, 5	2SC2412KS	Transistor (VAS AMP, AGC)
Q 8, 12	DTC143	Transistor (SWITCHING)
Q 11	2SB1132R	Transistor (Motor Drive)
Q 46, 79	RVTFMW5	Transistor (VAS AMP)
DIODES & RECTIFIERS		
D 1	RVD1SS133	Diode (A.G.C)
D 2	RVDSLC22DU29	LED (REC/BATT IND.)
D 3	RVDSLP178BF	LED (S.L.E IND.)
VARIABLE RESISTORS		
VR 1	EVLFBAA00A14	Volume/VAS Control VR.
VR 2	QVNB3A00B332	Tape Speed (2.4cm/s) Adjustment VR.
VR 3	QVNB3A00B472	Tape Speed (1.2cm/s) Adjustment VR.
SWITCHES		
S 1	RSS2F07YA-Q	Slide Switch, Record/ Playback
S 2	QSS1234	Slide Switch, Tape Speed
S 3, 4	QSB0256	Leaf Switch, POWER, CUE/FF
S 5	RSS3B27Z	Slide Switch, VAS/OFF/PAUSE
S 6	ESD10108	Slide Switch, S.L.E
JACKS		
J 1	QJA0199	Jack, Monitor
J 2	RJJB2Z	Jack, DC IN
J 3	RJJC3M2Z	Jack, MIC

Numbering System of Resistor

Example:

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value (100Ω)

ERJ	6G	C	J	2R2
Type	Wattage	Shape	Tolerance	Value (2.2Ω)

Resistor Type		Wattage	Tolerance
ERD:	Carbon Resistor	10 : 1/8W	F : ±1%
ERC:	Solid Resistor	25 : 1/4W	G : ±2%
ERF:	Incombustible Box-Shaped Wire-Wound Resistor	50 : 1/2W	J : ±5%
		18 : 1/8W	K : ±10%
		14 : 1/4W	H : ±20%
		12 : 1/2W	
ERG:	Metal Oxide-Film Resistor	1 : 1W	
		2 : 2W	
ERM:	Wire-Wound Resistor	3 : 3W	
		S1 : 1/2W	
ERO:	Superstable Metal Film Resistor	S2 : 1/4W	
		6G : 1/10W	
		8G : 1/8W	
ERX:	Metal-Film Resistor		
RRJ: ERJ:	Chip Resistor		

※ Capacity are in microtarads (μF) unless specified otherwise, P=Pico-farads.
※ Resistance are in ohms (Ω), unless specified otherwise, 1K=1,000Ω, 1M=1,000KΩ

Numbering System of Capacitor

Example:

ECKD	1H	102	Z	F
Type	Voltage	Value (1000pF)	Tolerance	Peculiarity

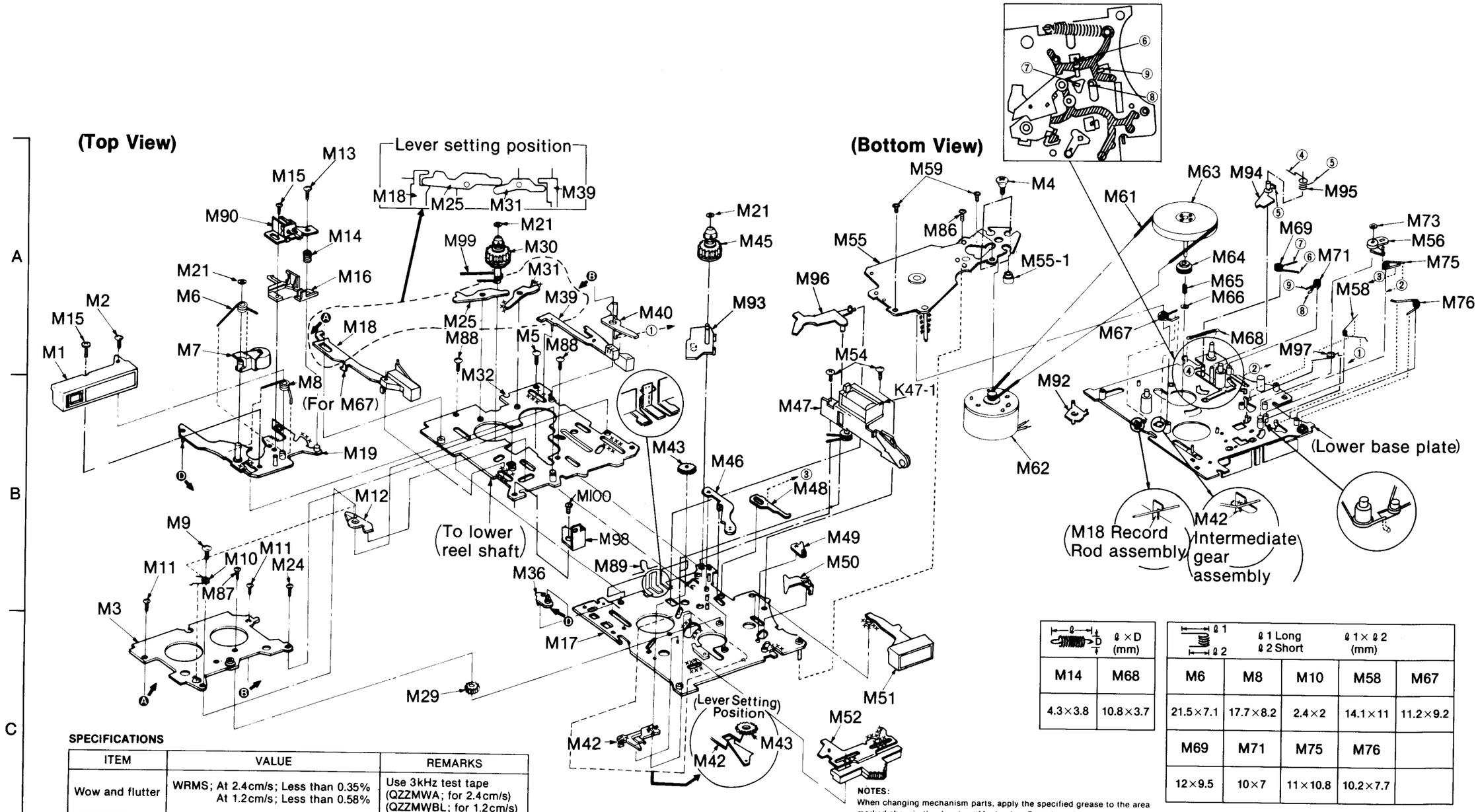
ECEA	50	M	R47
Type	Voltage	Peculiarity	Value (0.47μF)

Capacitor Type		Voltage		Tolerance
ECCD:	Ceramic Capacitor (Chitacon)	(ECCD, ECKD Type) 1H : 500V DC	2H : 500V DC	K : ±10%
ECKD:	Ceramic Capacitor (Chitabari)	(ECFD Type) C : 12V DC	D : 25V DC	M : ±20% Z : −20% +80%
ECFD:	Semiconductor Ceramic Capacitor	E : 50V DC		J : ±5%
ECE□:	Electrolytic Capacitor	(ECQ Type) 05 : 50WV DC	1 : 100WV DC	G : ±2%
ECS□:	Tantalum Fixed Electrolytic Capacitor	(ECE, ECS Type) 0G : 4V	0J : 6.3V	F : ±1%
ECQ□:	Polystyrenc Film Capacitor	1A : 10V	1C : 16V	C : ±0.25pF
ECQS:	Polystyrene Film Capacitor	1E : 25V	1V : 35V	D : ±0.5pF
ECQS:	Polypropylene Film Capacitor	1H : 50V	1J : 63V	F : ±1pF
ECQV:	T.F Capacitor	2A : 100V		
ECU□: RCU□:	Chip Capacitor			
ECBT:	Cylindrical Ceramic Capacitor			

Ref. No.	Part No.
CAPACITORS	
C 1, 5, 10, 22, 24	ECUX1E104ZF
C 2	ECEA1HKS0R1
C 3, 8, 16	ECEA0JKS220
C 4, 11, 19	RCUX1H822MD
C 7	ECUX1E224ZF
C 9	ECEA0GK101
C 12, 28	ECEA0GK470
C 13	RCUX1H471KB
C 14	ECEA1CKS100
C 15	ECEA0JK220
C 17	ECEA0GU471
C 18	ECEA0GKS221
C 20	RCUX1H152MD
C 21, 23	RCUX1E103MD
C 25	ECUX1E473MD
C 26	RCUX1H102MD
C 27	RCUX1H183MD
C 51	ECEA1HKS010
C 52	ECUX1C474ZF
RESISTORS	
R 6	ERDS2TJ224
R 38	ERDS2TJ4R7
R 47	ERDS2TJ395
R 51	RRSA05J123TH
R 55	RRSA39JR60
R 56	ERDS2TJ3R3
CHIP JUMPERS	
RJ 2, 3	RRD18XK000
RJ 4	ERJ6GCJ000

D

MECHANICAL PARTS LOCATION



SPECIFICATIONS

ITEM	VALUE	REMARKS
Wow and flutter	WRMS; At 2.4cm/s; Less than 0.35% At 1.2cm/s; Less than 0.58%	Use 3kHz test tape (QZZMWA; for 2.4cm/s) (QZZMWBL; for 1.2cm/s)
Pressure of pinch roller	200±25g	———

ℓ ×D (mm)	
M14	M68
4.3×3.8	10.8×3.7

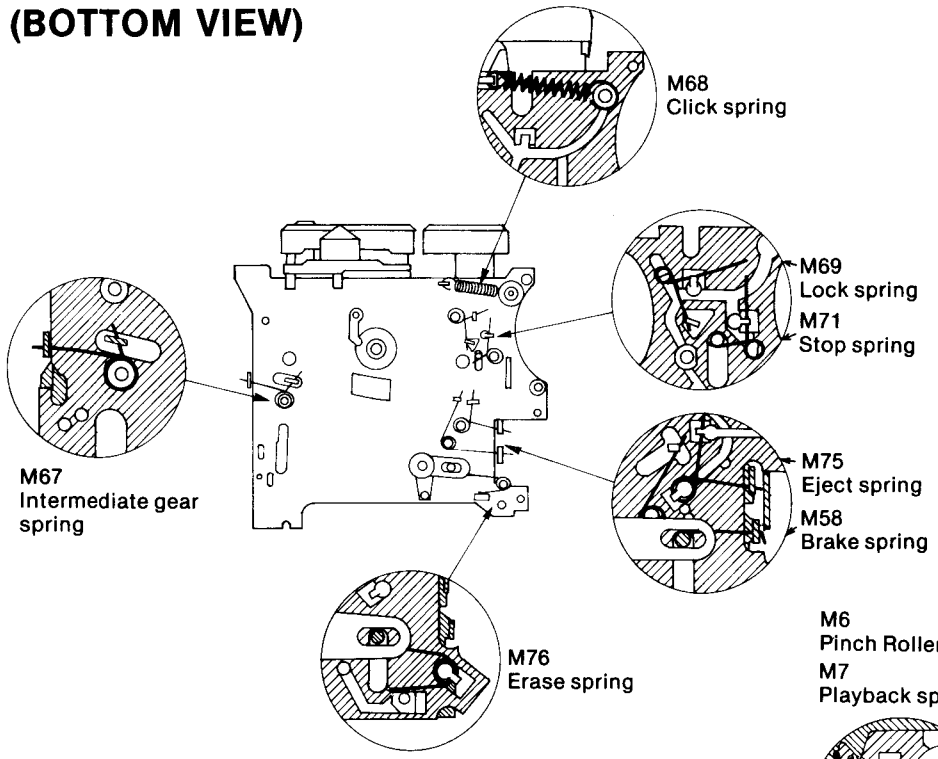
ℓ1 Long ℓ2 Short (mm)				
M6	M8	M10	M58	M67
21.5×7.1	17.7×8.2	2.4×2	14.1×11	11.2×9.2
M69	M71	M75	M76	
12×9.5	10×7	11×10.8	10.2×7.7	

NOTES:
When changing mechanism parts, apply the specified grease to the area marked show in the drawing "Mechanism Parts Location".
- "○○" mark.....Rocol paste (Lubricating grease) (RZZ0L06)
- "△△" mark.....Swafluid #56 (Lubricating grease) (RZZ06L02)
- "##" mark .....Aero (Lubricating grease) (RZZ0L04)

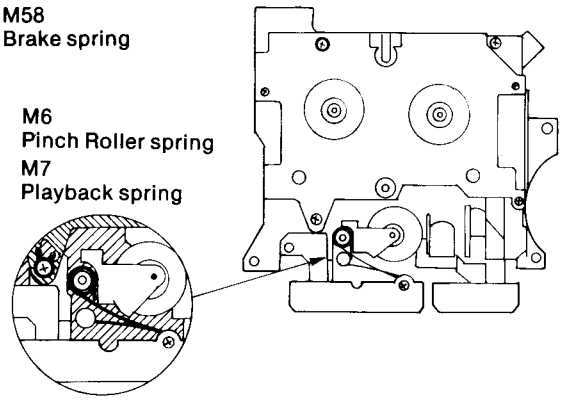
| | | | |

SPRING LOCATION

(BOTTOM VIEW)



(TOP VIEW)



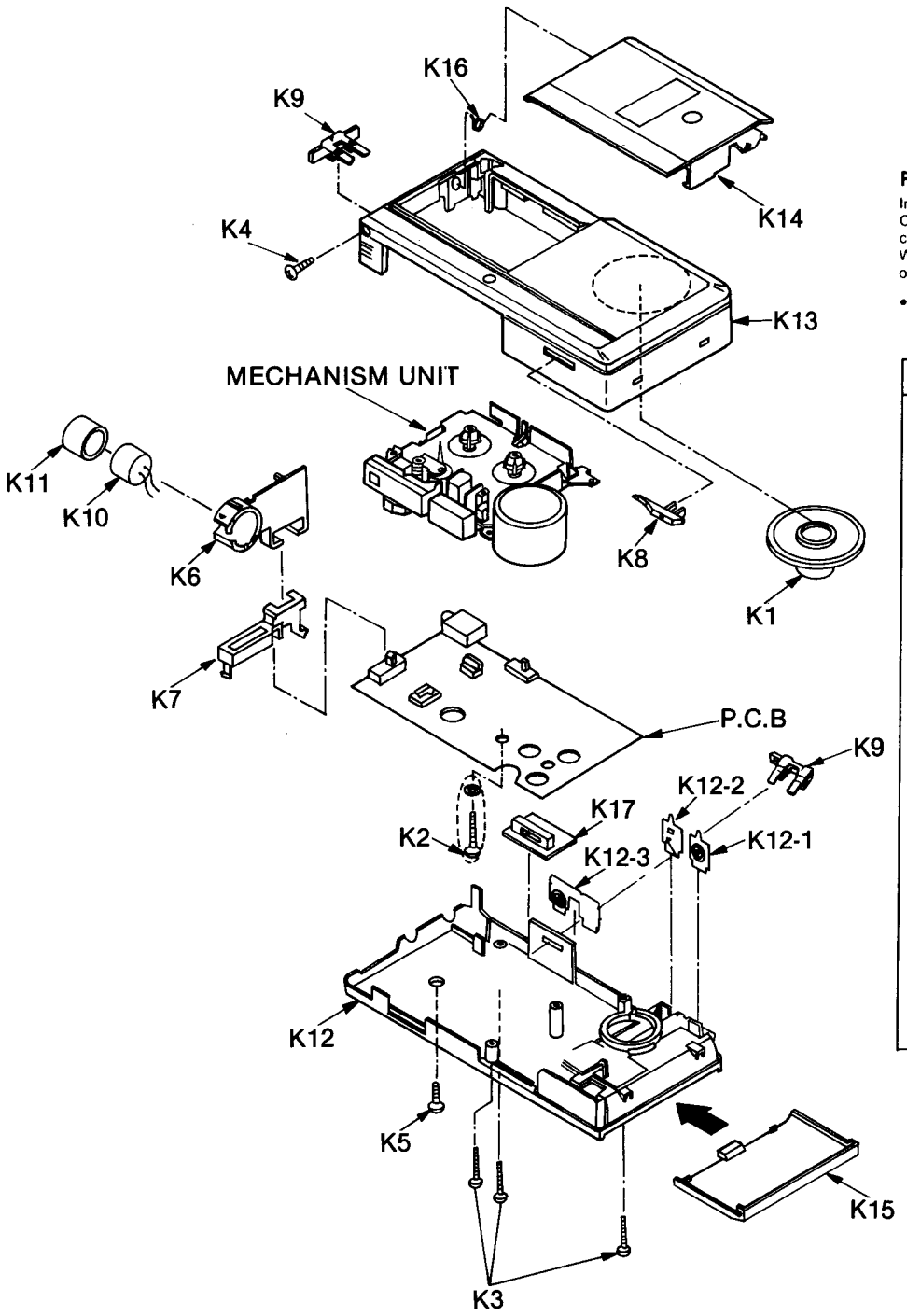
REPLACEMENT PARTS LIST

Important safety notice
Components identified by ⚠ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

The letter in the circle after the part name indicates the color of the part.
Ⓚ...Black, Ⓢ...Silver, Ⓞ...Orange

Ref. No.	Part No.	Part Name & Description
		MECHANICAL PARTS
M 1	RBC1044ZA	Button, Playback Ⓢ
M 2	XQN16+AM2FZ	Screw (Playback Button M'tg)
M 3	QXK3060	Reflection Plate Ass'y
M 4	QHQ1321	Screw (Motor M'tg)
M 5	XQN16+C35	Screw (Upper Base Plate M'tg)
M 6	RUW1Z	Spring (Pinch Roller Arm)
M 7	QXP71437	Pinch Roller Arm Ass'y
M 8	RUW2Z	Spring (Playback)
M 9	QHQ1254	Screw (Record Lock Lever M'tg)
M 10	QBN1738	Spring (Record Lock Lever)
M 11	XQS14+A16FZ	Screw (Reflection Plate M'tg)
M 12	QXL53874	Lever, Record Rod
M 13	QHQ1366	Screw (Head Azimuth)
M 14	QBC1331	Spring (Head Azimuth)
M 15	XQN16+AM22	Screw (Head, Playback Button M'tg)
M 16	QMG0130	Tape Guide
M 17	QMK2211	Lower Base Plate
M 18	QXR0968A	Record Rod Ass'y Ⓞ
M 19	QXK2257	Head Base Plate Ass'y
M 21	QBW2081F	Washer (Take up Reel Table, Supply Reel Table, etc. M'tg)
M 24	XQN16+A16FZ	Screw (Reflection Plate M'tg)
M 25	QXL54109	Lever A, Reverse
M 29	RDG5881ZA	Gear, Rewind
M 30	1DM0013ZA	Take up Reel Table Ass'y
M 31	QML4110	Lever B, Reverse
M 32	QXK3058	Upper Base Plate Ass'y
M 36	RNL84ZA	Lever, Switch Operation
M 39	QXR0966	Erase Rod Ass'y
M 40	QXL54111	Lever, Record Detection
M 42	QMF2242	Plate, Intermediate Gear
M 43	QDG1237	Intermediate Gear
M 45	QXD0162	Supply Reel Table Ass'y
M 46	QXL53875	Arm, Brake
M 47	1UL0024ZA	Eject Angle Ass'y
M 47-1	RSE217ZA	Counter
M 48	QMF1998F	Plate, Eject
M 49	QXL1236	Lock Lever Ass'y
M 50	QMF2347	Plate, Click
M 51	1UB0054ZA	Stop Rod Ass'y Ⓢ
M 52	QXH0464	Knob, Fast Wind Ⓚ
M 54	XQN16+CM2	Screw (Eject Angle M'tg)
M 55	1UA0051ZA	Motor Holding Plate Ass'y
M 55-1	QBG1768	Motor Cushion
M 56	RNL82ZA	Lever, Switch
M 58	QBN1633E	Spring (Brake)
M 59	XQS16A4	Screw (Motor Holding Plate M'tg)
M 61	RVD74ZA	Belt, Flywheel
M 62	MHJN3A3LA	Motor
M 63	QXF0162	Flywheel Ass'y
M 64	QDG1204	Gear, Flywheel
M 65	QBC1354	Spring (Flywheel)
M 66	QBW2060F	Washer (Flywheel)
M 67	QBN1737	Spring (Intermediate Gear Plate)
M 68	QBT1855	Spring (Click)
M 69	QBN2070	Spring (Lock)
M 71	QBN1631	Spring (Stop)
M 73	RNW215Z	Washer (Switch Lever)
M 75	QBN1627	Spring (Eject)
M 76	QBN1736	Spring (Erase)
M 86	XQS14+CF10	Screw (Motor Holding Plate M'tg)
M 87	XQS14+AF39FZ	Screw (Rewind Gear)
M 88	XQN16+AM25	Screw (Upper Base Plate M'tg)
M 89	QBN1892	Spring (Cassette Retainer)
M 90	QWY0136Y	Record/Playback Head
M 92	QML4133	Lever, Driving
M 93	QML4134B	Lever, Reel Table
M 94	QML4132B	Lever, Rock Release
M 95	QBN2071A	Spring (Rock Release Lever)
M 96	QML4182	Lever, Playback
M 97	QBN2098	Spring (Playback Lever)
M 98	RUL884ZA	Angle, Mechanism
M 99	RDV62ZA	Belt, Counter
M 100	XQN16+AM3	Screw (Mechanism Angle M'tg)

CABINET PARTS LOCATION



REPLACEMENT PARTS LIST

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- **The letter in the circle after the part name indicates the color of the part.**
  Ⓚ...Black

Ref. No.	Part No.	Part Name & Description
	CABINET PARTS	
K 1	**EAS3P113S**	Speaker
K 2	**XYC26 + EM4**	Screw (P.C.B. M'tg)
K 3	**XTN2 + 18JFZ**	Screw (Rear Cabinet Ass'y M'tg)
K 4	**XQN16 + A25FZ**	Screw (Front Cabinet M'tg)
K 5	**XQN16 + CF6FZ**	Screw (Rear Cabinet Ass'y M'tg)
K 6	**RHR1332ZA**	Holder, Microphone
K 7	**RHR1333ZA**	Holder, LED
K 8	**RBD392Z**	Knob, VAS Ⓚ
K 9	**RBD453ZA-0**	Knob, Tape Speed, S.L.E Ⓚ
K 10	**WM063Y110**	Microphone
K 11	**QBG1695**	Cushion, Microphone
K 12	**RKF873ZA**	Rear Cabinet Ass'y Ⓚ
K 12-1	**QJB0162**	Terminal, Battery (+)
K 12-2	**QJB0163**	Terminal, Battery (−)
K 12-3	**QJB0164**	Terminal, Battery (+/−)
K 13	**RKM1016ZA**	Front Cabinet Ⓚ
K 14	**RYQNZ190M**	Cassette Compartment Ⓚ
K 15	**RKK321ZA**	Battery Compartment Ⓚ
K 16	**RUS686ZA**	Spring, Cassette Lid
K 17	**RUP2190ZAH**	P.C.B.
	ACCESSORIES	
A 1	**RP29XP**	AC Adaptor ⚠
A 2	**RQX4867ZA**	Operating Instructions
	PACKINGS	
P 1	**RPK2357ZA**	Gift Box
P 2	**RPN5095ZA**	Pad (A)
P 3	**RPN5096ZA**	Pad (B)
P 4	**XZB11X19A02**	Poly Cover